SANTA CRUZ BIOTECHNOLOGY, INC.

TWIK-1 (H-50): sc-28630

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

K^+ channels are divided into three subclasses, reflecting the number of transmembrane segments (TMS), which are designated 6TMS, 4TMS, and 2TMS. Members of the 4TMS class contain two distinct pore regions, and include TASK, TREK, TRAAK, and TWIK. TWIK-1 mRNA is expressed abundantly in brain and at lower levels in lung, kidney, and skeletal muscle. TWIK-2 shares low sequence homology with other mammalian family group members, and only 34% homology with TWIK-1. Human TWIK-2 is expressed in pancreas, placenta and heart, while mouse TWIK-2 is expressed in liver. TWIK-2 is inhibited by intracellular, but not extracellular, acidification.

REFERENCES

1. Fink, M., et al. 1996. Cloning, functional expression and brain localization of a novel unconventional outward rectifier K^+ channel. EMBO J. 15: 6854-6862.
2. Lesage, F., et al. 1996. TWIK-1, a ubiquitous human weakly inward rectifying K^+ channel with a novel structure. EMBO J. 15: 1004-10011.
3. Duprat, F., et al. 1997. TASK, a human background K^+ channel to sense external pH variations near physiological pH. EMBO J. 16: 5464-5471.
4. Lesage, F., et al. 1997. The structure, function and distribution of the mouse TWIK-1 K^+ channel. FEBS Letts. 402: 28-32.
5. Maingret, F., et al 1999. TRAAK is a mammalian neuronal mechano-gated K^+ channel. J. Biol. Chem. 274: 1381-1387.
6. Pountney, D.J., et al. 1999. Identification and cloning of TWIK-originated similarity sequence (TOSS): a novel human 2-pore K^+ channel principal subunit. FEBS Letts. 450: 191-196.
7. Chavez, R.A., et al. 1999. TWIK-2, a new weak inward rectifying member of the tandem pore domain potassium channel family. J. Biol. Chem. 274: 24440.

CHROMOSOMAL LOCATION

Genetic locus: KCNK1 (human) mapping to 1q42.2; Kcnk1 (mouse) mapping to 8 E2.

SOURCE

TWIK-1 (H-50) is a rabbit polyclonal antibody raised against amino acids 287-336 mapping within a C-terminal cytoplasmic domain of TWIK-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TWIK-1 (H-50) is recommended for detection of TWIK-1 of human, rat and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TWIK-1 siRNA (h): sc-42349, TWIK-1 siRNA (m): sc-42350, TWIK-1 shRNA Plasmid (h): sc-42349-SH, TWIK-1 shRNA Plasmid (m): sc-42350-SH, TWIK-1 shRNA (h) Lentiviral Particles: sc-42349-V and TWIK-1 shRNA (m) Lentiviral Particles: sc-42350-V.

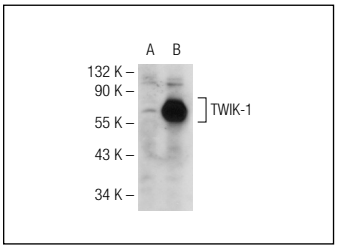
Molecular Weight of TWIK-1: 40/81 kDa.

Positive Controls: TWIK-1 (h): 293T Lysate: sc-176684 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TWIK-1 (H-50): sc-28630. Western blot analysis of TWIK-1 expression in non-transfected: sc-117752 (**A**) and human TWIK-1 transfected: sc-176684 (**B**) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.